Remarks/Arguments

Claims 13-24 are pending and are rejected.

Claims 13,15,16, 17, 18, 20, 21, 22, and 24 are amended, and claims 25-32 are added. The delay element in independent claim 13 is amended to recite that the delay selectively delays the audio output signal for the digitized audio signal to properly claim the scope entitled by applicants. Claims 20 and 24 are similarly amended. Claims 15 and 16 are amended to correct formal matter. Claim 17 is amended to recite that the second digital signal processing arrangement further comprises a processing element digital signal processing the digitized audio signal and the decompressed audio component. Support of this feature can be found, for example, on FIG. 2. Claim 18 is amended to be consistent with changes made to claim 17, from which claim 18 depends.

Claim 21 is amended to recite that the step of delaying is performed before the step of digital signal processing the digitized audio signal has been completed and claim 22, which depends from claim 21, is amended to recite that the step of delaying is performed before the step of digital signal processing the digitized audio signal. Support of performing the delaying step before the step of digital signal processing the digitized audio signal can be found, for example, on FIG. 2. Support of performing the delaying step before the audio processing has been completed can be found, for example, on page 8, lines 12-16.

Claim Rejections – 35 U.S.C. §103

Applicants respectfully disagree that amended claim 13 is unpatentable over US 6,134,419 (hereinafter "Williams") in view of US 5,602,595 ("hereinafter "Citta") and US 5,898,695 (hereinafter "Fujii"), as discussed below.

The present invention relates to a receiver that is adapted to receive both compressed digital signals and conventional SDTV analog signals. As known in the art and as shown in the specification, the SDTV analog signals are not compressed. One of the reasons is that the SDTV analog signals are not in digital format. An aspect of the present invention is that the analog signals are digitized, so that digital signal processing resources can be shared by both the digitized analog signals and the compressed digital signals. For example, element 1511 in FIG. 1 performs both video MPEG decoding and up-converting because element 1511 is a video MPEG

decoder and up-converter. See page 7, lines 18-21. The up-converting function, thus, is shared by both the decompressed MPEG video and digitized analog video. An example of the sharing of the audio digital signal processing can be found on audio MPEG/AC-3 decoder 1513 shown on FIG. 2, where the processing functions in the subsequent audio processing 1609 are shared by both the digitized analog audio and decompressed MPEG audio signals. See, for example, page 7, line 36-page 8, line 2. The sharing arrangements can simplify design and reduce cost for a receiver receiving both the compressed digital signal and analog signal. The inventors also recognized that the audio output signal for the digitized audio signal must be selectively delayed in order to synchronize the displayable analog video signal and the audible analog audio signal in this particular environment.

For example, claim 13 recites a receiver comprising:

(a) a first input for receiving a packetized input data stream comprised of multiplexed and compressed packets, each of said packets having at least header and payload data;

(b) a second input for receiving an analog signal;

(c) a decoder unit partitioning said packetized data stream to generate a video component and an audio component;

(d) a processor processing said analog signal to generate a digitized audio signal and a digitized video signal;

(e) first digital signal processing arrangement decompressing said video component of said packetized data stream, and digital signal processing said decomposed video component and said digitized video signal to generate a video output signal;

(f) second digital signal processing arrangement decompressing said audio component of said packetized data stream, and digital signal processing said decompressed audio component and said digitized audio signal to generate an audio output signal;

(g) a delay selectively delaying the audio output signal for the digitized audio signal to synchronize an audible audio signal with a displayable video signal; and

(h) a converting arrangement transposing said video output signal to the displayable video signal and said audio output signal to the audible output signal.

The digitized audio and video signals recited in the claim are digitalized analog audio and video signals because the processor processes the analog signal to generate the digitized audio and video signals. The analog signal is not compressed because the first digital signal processing arrangement processes the digitized video signal to produce the video output signal without performing the decompressing function and the second digital processing arrangement processes the digitized audio signal to generate the audio output signal without performing the decompressing function.

Williams, Citta, and Fujii, considered singly and in combination, do not disclose or suggest a receiver that is adapted to receive both compressed digital signals and analog signals. In fact, all three references disclose receivers receiving compressed digital signals.

As admitted in the Office Action, Williams discloses a receiver receiving compressed digital signals. Citta and Fujii also disclose a receiver receiving compressed digital signals, as discussed below.

Citta discloses a receiver receiving compressed digital signal because it clearly states at col. 3, lines 57-67 in describing the receiver shown in FIG. 4 that the received signal is an MPEG signal without the MPEG sync bytes. As such, although an A/D is involved, since the received signal is an MPEG signal, the received signal is a compressed digital signal, not an analog signal.

However, the Office Action alleges that Citta in FIG. 4 teaches an ATV receiver/sync system comprising an input for receiving an analog signal. This is incorrect. As discussed above, FIG. 4 clearly shows that the receiver receives an MPEG signal as clearly evident by the presence of an MPEG sync reinsertion block 40 in processing the input signal. As well known in the art, to transmit an MPEG signal, for example, in the air, the MPEG signal may be added bits for error correction and detection, modulated and RF transmitted. On the receiver side, a receiver must demodulate and remove the added bits to recover the MPEG signal. The fact that a receiver, such as the one disclosed in Citta, digitizes the RF signal using an A/D to recover the MPEG signal is irrelevant to claim 13 because claim 13 does not recite how the compressed digital signal is recovered in a receiver.

Furthermore, although MPEG signals are RF transmitted, it does not convert MPEG signals into analog signals under the meaning of claim 13. For example, the MPEG signals received in the receiver disclosed in the present application are also RF transmitted but they are compressed digital signals. See, for example, page 4, lines 1-34, of the specification of the present application.`

Fujii also discloses a receiver receiving compressed video signal. For example, at col. 3, lines 60-64, Fujii states that the object of the invention is to provide a decoder for compressed and multiplexed video and audio data, wherein packet landing buffers are allocated in a RAM used by a CPU for the system control to hereby reduce the number of components and lower the cost of component. In fact, the phrases "MPEG" and "MPEG transport packets" are used throughout the specification.

Although the Office Action admits that Williams does not disclose a second input for receiving an analog signal, a processor processing said analog signal to generate a digitized audio signal and a digitized video signal, and a delay selectively delaying the processing of the digitized audio signal to synchronize an audible audio signal with a displayable video signal, the Office Action fails to point out that Williams also does not disclose or suggest the first digital signal processing arrangement and the second digital signal processing arrangement because these two elements require the presence of digitized analog signals but Williams does not disclose or suggest a receiver receiving analog signal.

Furthermore, the Office Action cites Fujii as disclosing a delay means for selectively delaying the processing of the digitized audio signal to synchronize an audible audio signal with the displayable video signal. However, since Fujii does not disclose or suggest a receiver receiving an analog signal, there is no digitized analog signal in the receiver. As such, Fujii does not disclose the delay element in claim 13.

Since none of the three references disclose or suggest receiving an analog signal, the three references, considered singly or in combination, do not disclose or suggest a second input for receiving an analog signal, a processor processing the analog signal to generate a digitized audio signal and a digitized video signal, first digital signal processing arrangement decompressing the video component of the packetized data stream, and digital signal processing the decomposed video component and the digitized video signal to generate a video output, the second digital signal processing arrangement decompressing the audio component of the

packetized data stream, and digital signal processing the decompressed audio component and the digitized audio signal to generate an audio output signal, and a delay selectively delaying the audio output signal for the digitized audio signal to synchronize an audible audio signal with a displayable video signal, as recited in amended claim 13**,** applicants submit that amended claim 13, and dependent claims 14-19 are patentable over the three references.

Since amended claims 20 and 24 disclose similar features to that of amended claim 13, applicants submit that claim 20 and dependent claims 21-23, and claim 24 are patentable over the three references.

Claims 19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams, Citta, and Fujii as applied to claims 13 and 20, respectively and further in view of US 5,963,261 (hereinafter "Dean"). However, Dean discloses a low cost scan converter but it does not disclose a receiver. Since Dean does not disclose a receiver, it fails to cure the defects of Williams, Fujii, and Citta as applied to amended claims 13 20. As such, amended claims 13 and 20 are patentable over the four references.

New Claims

New claim 25 depending from claim 24 and new claim 28 depending from claim 13 recite that the delay is disposed such that the delaying occurs before the digital signal processing of the digitized audio signal has been completed, and new claim 26 depending from claim 25 and new claim 29 depending from claim 28 recites that the delaying occurs before the digital signal processing of the digitized audio signal. Support of these features is the same as those described above for amended claims 21 and 22.

New claim 27 depending from claim 24 and new claim 30 depending from claim 13 recite that the delay is disposed such that the delaying occurs after the digital signal processing of the digitized audio signal. Support of this feature can be found, for example, on page 8, lines 12-16 and page 3, lines 4-6. New claim 32 depending from claim 20 recites similar feature.

Since claims 25-27 depend from claim 24, they are patentable over the four references. Similarly, since claims 28-31 and 32 respectively depends from claims 13 and 20, they are patentable over the four references.

Conclusion

Having fully addressed the Examiner's rejections it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicants' attorney at (609) 734-6813, so that a mutually convenient date and time for a telephonic interview may be scheduled.

Respectfully submitted,
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